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Hironobu Shimazu

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EXAMINER

GOFF II, JOHN L

ART UNIT

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1791

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/517,206	Applicant(s) SHIMAZU ET AL.	
	Examiner John L. Goff	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10,11,15,18 and 22-32 is/are pending in the application.
- 4a) Of the above claim(s) 24 and 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10,11,15,18,22,23 and 26-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/20/08, 1/26/09</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the election filed on 1/26/09.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

3. Applicant's election without traverse of Species I, claim 23, in the reply filed on 1/26/09 is acknowledged. Claims 10, 11, 15, 18, 22, and 26-32 are considered generic to Species I and are examined along with claim 23.

Claim Objections

4. Claims 10 and 15 are objected to because of the following informalities: In claims 10 and 15, line 1 delete "an". Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. Claims 10, 11, 15, 18, 22, 23, and 26-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. Claims 10, 11, 15, 18, 22, 28, 29, and 31 require a step after irradiating light which require "before said adhesive for sealing the organic electroluminescence device is cured" or similar. It is unclear what is required by "cured", i.e. does cured exclude partial curing. As

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disclosed in applicants specification on page 21, irradiating light initiates the curing reaction within the adhesive such that the adhesive cures before sealing but not completely. This is the interpretation given the claims, i.e. the limitation has been considered to require before the adhesive is completely cured and does not exclude partial curing of the adhesive.

Claim Rejections - 35 USC § 103

7. Claims 10, 11, 15, 18, 22, and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gyotoku (JP 11-224771 and see also the machine translation) in view of Nakada (JP 2000-086989 and see also the machine translation) or Yamaguchi et al. (WO 02/102911).

Gyotoku discloses a method for producing a sealed organic electroluminescence device for a liquid crystal display using a photo cationic polymerizable adhesive (8 of Figure 1) containing a photo cationic polymerizable compound and a photo cationic polymerization initiator to fill a space between a sealing plate (7 of Figure 1) and a thin film structure (2 of Figure 1) and seal the periphery of the thin film structure (Paragraphs 0001, 0017, and 0029). Gyotoku teaches initiating a curing reaction of the adhesive by light irradiation (Paragraph 0044). Gyotoku does not specifically teach the light irradiation is applied to the adhesive before the adhesive fills the space between the sealing plate and the thin film structure. Gyotoku is not limited to applying the light irradiation either before or after the adhesive fills the space, and there are only two possibilities, i.e. the light irradiation is applied either before or after the adhesive is applied and fills the space. It was well taken in the art of curing a photo cationic polymerizable adhesive of the type taught by Gyotoku, i.e. an epoxy, used in bonding

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components of a liquid crystal display including an organic electroluminescence device to initiate the cure by applying light irradiation directly to the adhesive sufficient to initiate the cure prior to applying the adhesive to the device wherein applying irradiation directly to the adhesive to initiate the cure without passing the light through a portion of the liquid crystal display prevents the display from deteriorating by coloring, clouding, decomposing, cracking, etc. as shown by either one of Nakada or Yamaguchi, it being noted the adhesive is then completely cured after application between the components to be bonded (Paragraphs 0010, 0012, 0019, and 0033 of Nakada and Page 3, lines 1-3 and Page 5, lines 1-17 and Page 8, lines 27-30 of Yamaguchi). It would have been obvious to one of ordinary skill in the art at the time the invention was made to initiate/activate the cure of the adhesive by applying light irradiation as taught by Gyotoku directly to the adhesive, i.e. before applying the adhesive to fill the gap between the sealing plate and thin film structure, as suggested by Nakada or Yamaguchi to prevent light irradiation from passing through the organic electroluminescence device and deteriorating the device by coloring, clouding, decomposing, cracking, etc.

Regarding claims 22, 28, 29, and 31, Gyotoku teaches the adhesive includes a polyether compound such as polyethylene glycol (Paragraph 0023). Yamaguchi also teaches the adhesive includes a polyether compound (Page 14, lines 5-18).

Regarding claims 15, 18, 29, and 31, Gyotoku is silent as to the adhesive being carried on a tape. Both Nakada and Yamaguchi are exemplary of supplying the adhesive on or between polymer release/separator sheets considered moisture-proof tape wherein the adhesive has adhesive properties on both sides such that it is considered double-faced (Paragraph 0022 of Nakada and Page 5, lines 1-7 of Yamaguchi). It would have been obvious to one of ordinary

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skill in the art at the time the invention was made to supply the adhesive as taught by Gytoku between release/separator sheets which are removed prior to applying the light irradiation as shown by either one of Nakada or Yamaguchi to prevent fouling the adhesive prior to application wherein applying the irradiating light directly to the adhesive after peeling one of the release sheets either before or after peeling the other release sheet would have been well within the purview of one ordinary skill in the art only the expected results being achieved.

Regarding claims 30 and 32, the adhesive taught by Gytoku comprises a photo cationic polymerizable compound such as epoxy, a photo cationic polymerizable initiator such as an onium salt, and a polyether such polyethylene glycol. The office is unable to specifically test the adhesive taught by Gytoku for water vapor transmission rate. However, because the adhesive taught by Gytoku is consistent and in agreement with that disclosed by applicants specification as resulting in an adhesive with the claimed water vapor transmission rate the adhesive taught by Gytoku is considered to have the claimed water vapor transmission rate, it being noted applicants specification provides no further direction for forming an adhesive having the claimed water vapor transmission rate. Furthermore, Gytoku discloses the adhesive has low water absorption because of the polyether (Paragraphs 0013 and 0021). It would have been obvious to one of ordinary skill in the art at the time the invention was made to experimentally determine the amount of each component in the adhesive taught by Gytoku as modified by Nakada or Yamaguchi as a function of forming an adhesive with a low water vapor transmission rate wherein one would readily expect such a composition to have the claimed water vapor transmission rate as the adhesive taught by Gytoku includes the same components as that claimed with Gytoku further requiring the adhesive has low water absorption.

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8. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gyotoku and Nakada or Yamaguchi as applied to claims 10, 11, 15, 18, 22, and 28-32 above, and further in view of Maruyama et al. (U.S. Patent Application Publication 2002/0016418) or Tanaka (U.S. Patent Application Publication 2001/0033544).

Gyotoku and Nakada or Yamaguchi as applied above teach all of the limitations in claim 23 except for a specific teaching that the photo cationic polymerization initiator is a salt containing boronic acid express by the claimed formula as a counter ion, it being noted Gyotoku is not limited to any particular initiator and suggests onium salts (Paragraph 0025). Known commercially available onium salts for use as photo cationic polymerization initiator for epoxy include photo initiator 2074 from Rhone-Poulenc as shown by Maruyama (Paragraphs 0045 and 0046) or Tanaka (Paragraphs 0028 and 0029) wherein photo initiator 2074 is a salt containing boronic acid express by the claimed formula as a counter ion as evidenced by applicants specification (Page 13, lines 30-32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the photo cationic polymerization initiator in Gyotoku as modified by Nakada or Yamaguchi PI2074 a known onium salt initiator suitable for use in Gyotoku that is commercially available as evidenced by Maruyama or Tanaka.

9. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gyotoku and Nakada or Yamaguchi as applied to claims 10, 11, 15, 18, 22, and 28-32 above, and further in view of Inada et al. (U.S. Patent 5,965,269) or Kimball (U.S. Patent 5,218,063).

Gyotoku and Nakada or Yamaguchi as applied above teach all of the limitations in claims 26 and 27 except for a specific teaching that the adhesive includes for example calcium carbonate an alkaline filler reactive with acid or calcium oxide a drying agent, it being noted

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Gyotoku teaches the adhesive includes fillers for example viscosity modifying fillers such as silica (Paragraph 0026). Conventional fillers for epoxy adhesives include calcium carbonate, calcium oxide, silica, etc. as evidenced by Inada (Column 8, lines 19-24) or Kimball (Column 5, lines 41-46) wherein Inada (Column 8, lines 38-42) specifically demonstrate known viscosity modifying fillers include calcium carbonate, calcium oxide, silica, etc. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include as the filler in Gyotoku as modified by Nakada or Yamaguchi any conventional filler such as calcium carbonate or calcium oxide as evidenced by Inada or Kimball it being further obvious to include calcium carbonate or calcium oxide as a viscosity modifying filler as an alternative to silica as all three were known alternative viscosity modifying fillers as shown by Inada.

Response to Arguments

10. Applicant's arguments filed 9/18/08 have been fully considered but they are not persuasive.

Applicants argue, "However, in accordance with claims 10, 11, 15, and 18, (1) after irradiating light is applied to the adhesive, (2) the organic electroluminescence device is sealed by filling the space between a sealing plate and a thin film structure with said adhesive, and that is done (3) before said adhesive is cured."

Gyotoku as modified by Nakada or Yamaguchi teaches initiating the cure of the adhesive by applying light irradiation directly to the adhesive, i.e. before applying the adhesive to fill the gap between the sealing plate and thin film structure, to prevent light irradiation from passing through the organic electroluminescence device and deteriorating the device by coloring,

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clouding, decomposing, cracking, etc. The adhesive is not completely cured before being applied. This method is consistent with that disclosed by applicants specification on page 21 as initiating a curing reaction by light irradiation which adhesive is then applied before being completely cured. Thus, the limitation “wherein after irradiating light to said adhesive for sealing the organic electroluminescence device the organic electroluminescence device is sealed by filling the space between a sealing plate and a thin film structure with said adhesive for sealing the organic electroluminescence device before side adhesive for sealing the organic electroluminescence device is cured” is interpreted as requiring before the adhesive is completely cured and does not exclude partial curing of the adhesive (See the 35 USC 112 second paragraph rejection which is maintained in view of applicants arguments).

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571)272-1216**. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John L. Goff/
Primary Examiner, Art Unit 1791